Appl. No. 10/010,586   PATENT
Amdt. dated 5/25/05   Docket: 010496
Reply to Office Action of 3/10/05

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application.

Listing of Claims:

Claim 1 (Currently amended):   A method comprising:

accumulating pilot symbols of a first wireless signal;

accumulating non-pilot symbols of the first wireless signal;

selecting a weight factor from a lookup table, the weight factor comprising a number of pilot symbols in the accumulated pilot symbols multiplied by a constant; and

calculating a weighted sum of the accumulated pilot symbols and the accumulated non-pilot symbols using the selected weight factor to estimate power of the first wireless signal.

Claim 2 (Original):   The method of claim 1, wherein accumulating pilot symbols comprises coherently accumulating a number of pilot symbols corresponding to a slot by summing each of the number of pilot symbols and squaring the sum of the number of pilot symbols.

Claim 3 (Original):   The method of claim 2, wherein accumulating the non-pilot symbols comprises non-coherently accumulating a number of non-pilot symbols corresponding to a slot by squaring each of the number of non-pilot symbols and summing the squares of the number of non-pilot symbols.

Claim 4 (Original):   The method of claim 1, wherein accumulating the non-pilot symbols comprises non-coherently accumulating a number of non-pilot symbols corresponding to a slot by squaring each of the number of non-pilot symbols and summing the squares of the number of non-pilot symbols.

Claim 5 (Original):   The method of claim 1, further comprising comparing the weighted sum to a target value and generating a power control signal based on the comparison.

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Claim 6 (Original): The method of claim 5, further comprising controlling transmission power of a wireless communication device based on the power control signal.

Claim 7 (Original): The method of claim 5, further comprising controlling transmission power of a base station based on the power control signal.

Claim 8 (Original): The method of claim 5, further comprising wirelessly communicating a second wireless signal to control transmission power of a wireless communication device, wherein the second wireless signal includes the power control signal.

Claim 9 (Original): The method of claim 5, further comprising wirelessly communicating a second wireless signal to control transmission power of a base station, wherein the second wireless signal includes the power control signal.

Claim 10 (Currently amended): The method of claim 1, further comprising ~~determining a weight factor and~~ calculating the weighted sum by summing the accumulated pilot symbols with a result of the weight factor multiplied by the accumulated non-pilot symbols.

Claim 11 (Canceled).

Claim 12 (Currently amended): The method of claim 1~~1~~, wherein the constant is equal to approximately 0.5.

Claim 13 (Canceled).

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Claim 14 (Currently amended):   A method comprising:

accumulating pilot symbols of a first wireless signal;

accumulating non-pilot symbols of the first wireless signal;

generating a weight factor using an algorithm, the weight factor comprising a number of pilot symbols in the accumulated pilot symbols multiplied by a constant; and

calculating a weighted sum of the accumulated pilot symbols and the accumulated non-pilot symbols using the generated weight factor to estimate power of the first wireless signal The method 11, wherein determining the weight factor comprises generating the weight factor using an algorithm.

Claim 15 (Original):   The method of claim 1, wherein accumulating non-pilot symbols of the first wireless signal comprises separately accumulating a first number of non-pilot symbols corresponding to a slot and accumulating a second number of non-pilot symbols corresponding to the slot.

Claim 16 (Original):   The method of claim 15, wherein accumulating the first number of non-pilot symbols corresponding to the slot comprises coherently accumulating the first number of non-pilot symbols corresponding to the slot, and wherein accumulating the second number of non-pilot symbols corresponding to the slot comprises non-coherently accumulating the second number of non-pilot symbols corresponding to the slot.

Claim 17 (Currently amended): A computer-readable medium carrying program code that when executed,

accumulates pilot symbols of a first wireless signal;

accumulates non-pilot symbols of the first wireless signal;

selects a weight factor from a lookup table, the weight factor comprising a number of pilot symbols in the accumulated pilot symbols multiplied by a constant; and

calculates a weighted sum of the accumulated pilot symbols and the accumulated non-pilot symbols to estimate power of the first wireless signal.

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Claim 18 (Original):   The computer readable medium of claim 17, wherein the program code when executed:

accumulates pilot symbols by coherently accumulating a number of pilot symbols corresponding to a slot by summing each of the number of pilot symbols and squaring the sum of the number of pilot symbols, and

accumulates non-pilot symbols by non-coherently accumulating a number of non-pilot symbols corresponding to a slot by squaring each of the number of non-pilot symbols and summing the squares of the number of non-pilot symbols.

Claim 19 (Currently amended): An apparatus comprising:

a receiver that receives a wireless signal,

a demodulator that demodulates individual chips of the wireless signal,

a symbol generator that groups results of the demodulation into control symbols, wherein the control symbols include pilot symbols and non-pilot symbols, and

an estimator that calculates an estimate of the power of the wireless signal by separately accumulating the pilot symbols and the non-pilot symbols and calculating a weighted sum of the accumulated pilot symbols and accumulated non-pilot symbols using a weight factor comprising a number of pilot symbols in the accumulated pilot symbols multiplied by a constant,

an antenna coupled to the receiver,

a rotator that adjusts the frequency of the wireless signal prior to demodulation, and

a digital signal processor that processes the control symbols.

Claim 20 (Canceled).

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Claim 21 (Currently amended): ~~The apparatus of claim 19, further~~ An apparatus comprising:

a receiver that receives a wireless signal,

a demodulator that demodulates individual chips of the wireless signal,

a symbol generator that groups results of the demodulation into control symbols, wherein the control symbols include pilot symbols and non-pilot symbols,

an estimator that calculates an estimate of the power of the wireless signal by separately accumulating the pilot symbols and the non-pilot symbols and calculating a weighted sum of the accumulated pilot symbols and accumulated non-pilot symbols using a weight factor comprising a number of pilot symbols in the accumulated pilot symbols multiplied by a constant,

a comparator that compares the estimate to a target value to determine whether the power of the wireless signal should be increased or decreased, and

a power command generator that generates a command signal to adjust the power of the wireless signal.

Claim 22 (Original):   The apparatus of claim 21, further comprising a transmitter that transmits a second signal to instruct a device that sent the first signal to adjust its power according to the command signal.

Claim 23 (Currently amended): An ~~The apparatus of claim 19, wherein the~~ apparatus that forms part of a base station in a wireless communication system comprising:

a receiver that receives a wireless signal,

a demodulator that demodulates individual chips of the wireless signal,

a symbol generator that groups results of the demodulation into control symbols, wherein the control symbols include pilot symbols and non-pilot symbols,

an estimator that calculates an estimate of the power of the wireless signal by separately accumulating the pilot symbols and the non-pilot symbols and calculating a weighted sum of the accumulated pilot symbols and accumulated non-pilot symbols using a weight factor comprising a number of pilot symbols in the accumulated pilot symbols multiplied by a constant.

Claim 24 (Original):   The apparatus of claim 19, wherein the apparatus forms part of a wireless communication device in a wireless communication system.

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Claim 25 (Original):   The apparatus of claim 19, further comprising:

a number demodulators that demodulate individual chips of the wireless signal received via a number of paths,

a number of symbols generators that group results of demodulations into control symbols, wherein the control symbols include pilot symbols and non-pilot symbols, and

a number of estimators that respectively calculate estimates of the power of the wireless signal corresponding to each of the number of paths by accumulating the pilot symbols.

Claim 26 (Original):   The apparatus of claim 25, further comprising:

a register that stores and combines the estimates; and

a comparator that compares the combined estimates to a target value to determine whether the power of the wireless signal should be increased or decreased.

Claim 27 (Currently amended): A wireless communication system comprising:

a wireless communication device that sends a first signal encoded with pilot and non-pilot symbols; and

a base station that receives the first signal, and estimates power of the first signal by separately accumulating the pilot symbols and the non-pilot symbols and calculating a weighted sum of the accumulated pilot and non-pilot symbols, including selecting a weight factor from a lookup table, the weight factor comprising a number of pilot symbols in the accumulated pilot symbols multiplied by a constant.

Claim 28 (Original):   The wireless communication system of claim 27, wherein the base station compares the estimated power of the first signal to a target value and sends a second signal back to the wireless communication device to adjust transmit power of the wireless communication device accordingly.

Claim 29 (Currently amended): A wireless communication system comprising:

a base station that sends a first signal encoded with pilot and non-pilot symbols; and

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a wireless communication device that receives the first signal, and estimates power of the first signal by separately accumulating the pilot symbols and the non-pilot symbols and calculating a weighted sum of the accumulated pilot and non-pilot symbols, including selecting a weight factor from a lookup table, the weight factor comprising a number of pilot symbols in the accumulated pilot symbols multiplied by a constant.

Claim 30 (Original): The wireless communication system of claim 29, wherein the wireless communication device compares the estimated power of the first signal to a target value and sends a second signal back to the base station to adjust transmit power of the base station accordingly.

Claim 31 (New): A computer-readable medium carrying program code that when executed,

accumulates pilot symbols of a first wireless signal;

accumulates non-pilot symbols of the first wireless signal;

generates a weight factor using an algorithm, the weight factor comprising a number of pilot symbols in the accumulated pilot symbols multiplied by a constant; and

calculates a weighted sum of the accumulated pilot symbols and the accumulated non-pilot symbols to estimate power of the first wireless signal.

Claim 32 (New): A wireless communication system comprising:

a wireless communication device that sends a signal encoded with pilot and non-pilot symbols; and

a base station that receives the signal, and estimates power of the signal by separately accumulating the pilot symbols and the non-pilot symbols and calculating a weighted sum of the accumulated pilot and non-pilot symbols, including generating a weight factor using an algorithm, the weight factor comprising a number of pilot symbols in the accumulated pilot symbols multiplied by a constant.

Claim 33 (New): A wireless communication system comprising:

a base station that sends a signal encoded with pilot and non-pilot symbols; and

a wireless communication device that receives the signal, and estimates power of the signal by separately accumulating the pilot symbols and the non-pilot symbols and calculating a

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weighted sum of the accumulated pilot and non-pilot symbols, including generating a weight factor using an algorithm, the weight factor comprising a number of pilot symbols in the accumulated pilot symbols multiplied by a constant.

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